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Notes on Lectures Dilivered by Dr Benjamin Rush on the institutes & practice of Medicine & on Clinical cases in the University of Pennsylvania in Philadelphia, taken at their dilivery in the Winters of the years 1807 & 1808 by Jas. Overton & in the winter of 1808 & 9—

Vol. II.

Cum

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F. O

Operations of the Mind

Judgement

Reason

P.A.I.R. Mind

Lecture 15th

Perception is that Operation of the mind by which we The Human identify objects, or know to be what they are, this is the most simple Operation of the mind, the Passions are always accompanyd with desire or aversion, this Destinguisth them from Emotion, there is also a believing faculty by which we assent to things without evidence, the Capacity of the Moral faculty is innate, the faculty seated in the will, the seat of the Conscience is in the Understanding, Taste is also a faculty of the mind it consists in a prompt and sudden perception of propriety in the works of art or nature Dr Rush then asked if there might not yet be other faculties of the yet in a dormant state to be hereafter called from their obscurity cultivated & extended to the benefit of mankind - The mind in Perception & apprehension is inactive But in Reason and judgement the mind acts Ideas are of two kinds Simple or those from simple impressions on the mind Through the medium of sense & Reflex from the comparison of simple ideas previously received ideas are the effect of a certain motion communicated to the brain from impression it is therefore only a quality the removal of ideas must be from association, produced by an action on that part of a similar nature with that which produced the original idea What is

thought? a motion in the brain from stimulas of
internal or external nature operating by impulse
made by means as purely mechanical as sound
conveyed to the ear, thought is the combination
ideas, association is confined to memory, thus we are
a thinking machine and as incapable of stoping
a train of thought as tis to stop the motion of the
earth, we have no ideas of attraction; most of
our pleasures & pains are derived from association
& indeed extends much further & tis thought that
the tyranical governments of Europe supported by
this association with the gaudy trapings of roya
lty, & many vices are tolerated by the influence
of association thus swearing is generally asoca
ted with a fine Coat & with other circumstances tha
t in palliate its offensiveness, Murder has gener
ly been attended with a loss of blood, hence
we may kill by purging by sweating and by
vomiting & we shall never be called a murder
but we soon acquire it if we bleed patients
who are so unfortunate as to die after the
Operation Ideas is combany those ideas which
are associated Despots those which are not asso
ciated, The senses are concerned in all the association
thus an idea received while we smell a strong flow
is much more closely associated with the smell
than it is with any other circumstance, perception
associated with thought and ideas by the
following causes, first by place, thus now

find them recollection much assisted by placing themselves in the exact spot where the idea was originally recieved; thus to go to the new side when we have read of or wish to recollect the subject of any books or have three passed who can pass an old school house without having the day of his juvenile sports recalled to his mind 2dly by time thus Christmas is associated with ideas of our Savior & the H[illegible] duty with festivity & indefinite ideas are associated with Days and even with hours hence I never think of twelve oclock without at the same time thinking of an assemblage of young gentlemen who honour to themselves & their profession 3dly by pleasure, hence we remember a speech delivered in an oratorical style much longer than the same speech in a cold & lifeless manner 4thly by pain, hence Mothers talk all events from the event of Childbearing, the early ideas of childhood are only remembered better than those subsequently acquired because they are generally attended with more vivid pleasure or pain, associations are frequently formed by circumstances of which we have no knowledge at the time, thus a gentleman on entering the room of his friend who had a broken leg, felt a repugnance at him & treated him with much coolness without being able to tell the cause of it, after some time he remembered that he had not long before seen general arnold in the same position with a broken leg, who had but lately

diserted from the American army. In this way we are unhappy from associations without knowing the cause of it. Dr Rush is informed by persons are ruined by pain. One prescribed about 60 drops of laudanum for a patient in the fore noon, he then told me he had never taken any before in his life, a pain in his stomach a little while after brought to his recollection having taken laudanum 25 years ago. the laudanum for a similar affection, words are a fruitful source of association, & even simple letters sometimes recal ideas, hence when we in search of an idea we repeat the alphabet till we come to the initial letter which frequently excites the word or idea, sounds produce association, words related to each other words not related to each produce association, as a man was heard to say he wished to find a man whose name he had forgot yet it was like point to point this immediately suggested the name in the mind of the man enquired of and he directed him to the house of Alex. Alexander, it is produced by interest, custom, & the ties of consanguinity to combine & compare the perceptions thus excited is the business of Judgment judgment sometimes acts rapidly yet its general operation is tardy, and rarely exceeds the bounds of experience Reason is the highest operation of the human mind it is under the influence of analogy it proceeds from Known to unknown, it combines & compares the propositions of the judgment to the source

of any invention, there are persons of great judg
without reason, & Reason without judgment
judgment may build a single house but
Reason alone can out of these form a city, both of
these kind of people impose upon the world
reason is superior to judgement in imbracing all
the faculties of the mind and in acting indepen
ant of experience Genius suddenly detects
false associations & combines correct ones, all
the faculty's of the Mind must combine in
an genius particularly Memory & imagination
ties on this Last that the clerity of genius depends
the intuition between objects can only be seen by
an effect of the imagination which calls
up whole histories at once — Clinical report.
a Case of Chronic Fistula adhesion of the gum
& cheek, this D. Physic says is owing to a decay
of part of the jaw & that the fistula will not
cease till the bone be removed this adhesion way
from Salivation — For Chronic Hepatitis he
ordered 10 gr. Rhei & 3 ges of Tinct three times a
day — For the Case of Synocus Mitis or mild
remitting fever he had ordred bleeding, this Dr.
Rush says he should not have done if
he had been guided altogether by the pulse
but he had a pain in his head & the eyes

do not always Sympathise with the upsets of the brain, another reason for blinding his face was mixed flushed, he now has to take 10 gr Cal & 15 grains of Jalap any Day, he also takes 6 of Nux 1/3 Emit last 3 times a Day

Lecture 19th

Association Consists in one perception exciting other perceptions. thoughts & ideas, tis the same thing in the mind that Sympathy is in the body, Sympathies are, natural, acquired & Diseased So are the associations, this association may be traced in a careful review of our past thoughts, this operation of the mind is assisted by many circumstances, writing produces great associations than words. for here we can view the word a longer time at once, D Rush said he never understood a Subject till he had written on it, visible associations are there greater or more multimodal than those of sound Tis the province of judgment to compare ideas, or perception & mark their agreement or disagreement Reason Compares the Separate propositions of the judgment & forms inductions from them Genius is a sudden & quick operation of mind Genius is reason on wings & reason Genius or God, Inspiration can be nothing else than a high grade of genius, on this Subject and on Common Sense Dr Rush addresses a volume of pages by himself. Common Sense is the opinion only of a majority of the world &

is in conformity to truth or falsehood as a proposition of the world hold correct & incorrect opinions it is different in different countries & different in the same country at different times, The passions stimulate the understanding into a conception in conformity to divine mind; Deity has neither reason nor judgment the whole universe in him constitutes but one perception Attention consists in the application of the mind to one single object, since any may be attentive although an idiot, Reflection is the application of the mind to the properties of an object thus man may reflect who can not contemplate which consists in the application of the mind to the qualities and properties of many things at the same time, men of first rate talents contemplate this privilege was enjoyed by Locke, Bacon, Newton but most men only reflect Wit, produces pleasure in two ways 1st by the sudden impression of truth 2d by jocularity the comparison of things of little similarity & this should appear at the first moment without any exertion of

Will this faculty differs from the understanding in its attending to more than one thing at once, thus I can walk & read at the same time, does the will act by a power in itself or is its actions the effects of necessity, the will has no more power to act without stimulus or motive than any muscle of the body and what has been free agency is nothing more than the reaction of the will

in consequence of motives as the operations of many of the impressions which stimulate & keep up life are unperceived so the motives which determine the action of the will are not in many cases perceived the will is passive & can no more act without by appropriate stimulus than the eye or ear consciousness has. some objects; by our own existance, our own actions, the lapse of time & personal identity, common to itself; it is suspended in disease, the consciousness of the lapse of time is lost by idiots & in sound sleep, a consciousness of personal identity is derived from the exercise of our faculties & senses — the same state of mind & Body will always awaken the same conciousness both in time and eternity. D Rush then proceeded to treat of the manner the faculties evolve themselves in a new born infant which may be considered a germ of a sleeping mind, first a desire of food soon after emotion, about the 5th month rimmineserence 18th month word and then application to ideas at the 3d year memory, moral faculty & sense of deity is evolved at this period children ask many questions on this subject from this till the 10th year the perceptions & association are vevived at the 12th year the understanding 14th the imagination and judgment, reason & middle life evolve themselves in prime & adult life, from this history we may draw a useful lesson in the education of youth applying them to those studies

for which the faculties gradually unfold themselves — In extreme old age all the powers fail except the moral faculty, Sense of duty and avarice, this decay of the faculties is in a great measure from the want of exercising them, Thus Dr Franklin possessed all the faculties of his mind untill the day of his death, he forgot in old age the transactions of middle life in which most of our pains happen to recollect the occurrences of youth all of which are attended with pleasure — Brutes possess all the faculty but duty & sense of duty, Dr Wolff — Man is an animal Capax rationis non Rationans, Dr Rush Concludes this lecture by exhorting us to study Intellectual science, without it we can not with any propriety treat madness of any discription

Lecture 20th

Wit is Dryden a assemblage of idras, that give us pleasure in two ways, by their truth or by their novelty, Laughter is produced by incongruity of words & actions & sentiments, Consciousness of existance is an act of simple perception, Consciousness of personal identity requires the exercise of all the faculties & particularly the memory this consciousness is lost in Sleep & Disease, hence in Sleep we often dream of being what we are not. Dr Rush then proceed to the investigation of the pleasures of the senses and here he took occasion to say that pain

like death was the natural state of man and all our pleasures the effects of stimulus acting on the body. in a savage state pain greatly ovrballancs the pleasure of living & to a newborn infant every thing is painful except the milk of its mother, but pain is necessary to pleasure & as pain & pleasure I shall use as a general term imbracing all subordinate terms as applying to different degrees of pleasure only & produced by different degrees of the same cause. Pleasures are artificial & natural; first I shall treat of the pleasures of the sense of touch, the pleasure of this sense arises 1st from perfect health 2d from the lips in kissing 3d from the contact of the skins in different parts between the sexes 4th from the air at a certain temperature it is felt in England in the Spring in America the temperature seldom rests long at this point of temperature; the Climate of the West Indies produces a constant pleasure at certain periods of the year but how much more exquisitely do other animals feel this pleasure than man of this we have abundant testimony in the Spring by the frolics of the herds & the constant melody of the feathered tribes. Oxygen gas inhaled into the lungs give pleasure to the sense of touch, the warm bath from the pleasure it affords to this sense has become an article of luxury & the late D^r Franklin was used to spend in the decline of life hours in the enjoyment of this luxury, he even indulged in sleep sometimes

17 Doctor John Hunter said in the last moments of his
life "I wish I had a pen and could write, that I
might set down, how every a thing it is to die".

in his bath and here he would sometimes admit the conversation of his friends, Certain exercises to this sense give pleasure as easy sailing & to the sense in ane the pleasure of the chase & also to the joy of fear or the joy of having escaped its varied dangers, Tenderness & vigour in the stomach & intestines for this part of the body & consider as an extended portion of the skin & sudden relief from great pain produces pleasure thus many women have exclaimed immediately after the delivery that they felt like they were in heaven, this sense drives pleasure from the application of soft & smooth substances to the body, this has sometimes produced fainting, the american soldier after having lain on the hard ground for many months have been frequently known to faint and be confined on their return to their home family or sleeping in a feather bed, Titilation is a low degree of pleasure, hence some people take great pleasure in having their heads scratched and a certain part would often quit his studies to have his head combed, these are hermaphrodite sensations or pleasures as rubbing in a stitch in the cold, Darkness by withdrawing external stimulus increase the mental action & hence give some pleasure, Scratching gives pleasure to the sense of touch and lastly D Rush mentions the bodily pleasure of dying, Gen Butler observed in his last moments that it was not so hard a thing to die and appeared like falling into a sound sleep, & another gentleman exclaimed in the last moments of life I do see you but I hear you take care of yourselves, the last sensation

in Death bring a pleasant one occasions that smile
which remain on the countenance of many people
after death, and a distorted face probably arises
in the pain of the last moments of life, there is
a pleasure of this sense resident chiefly in the fingers
it is limited to soft & smoothe objects, the skin of a child
of 18 months old will give us an idia of this pleasure
motion increases this pleasure hence Mothers
move their hands gently backward & forward over
their children TASTE its pleasures are of a relative
nature according to our hunger & habit for any kind
of food gives pleasure if we have hunger thence
tis said that hunger is the best sauce but the pleas-
-ure of taste is most exquisite when influenced
by habit, Taste may be rendered much more
exquisite by suspending the Operations of the
mind & avoiding every external impression
while we eat & thus concentrate the excitability
on the tongue. The pleasure of taste is also
inhanced by condiments, but these to last must
have great variety for a continued applyca-
-on of any one of them would soon palsy
the senses, but aliments without much stim-
-ulus is like green to the eye they wished
for a long time, it is thought by D^r Rush
that many more pleasures might be added
to the Sense of taste by the applycation of
Chimestry to the art of Cookery SMELLING
all nature contributes to the pleasure of this

this Sense, it is much increased by force of Mixture
herbs are more fragrant in the morning & when
Cultivated in a garden, Smelling is liable to
perversion, thus some delight in the Smell of
the strongest musk, the pleasures of the Senses
act by this Stimulus as a useful Medicine
& many Cases of disease they should not there
-fore be overlooked

Seeing

Various degrees
of light afford pleasure in proportion to the Colour by it
communicated, In the Metals yellow & grey please
most not because Metals of this colour are most
precious as gold & silver but from a principle
inherent in the body as Sensation & perception, Colour
like Sound are related to one another, hence a person
is said to drop with taste when there is an agreement
between the Adjacent Colours, Sir Joshua Reynolds
has made the beauty of man to consist in that
of all other Animals, this may arise from the
harmony of Colour particularly of his face
beauty Consists in Curved lines without any ab-
-rupt angles, the most most beautiful animal is bar
-e. the horse & the works of art please in as much
as they resemble objects in the curved line of beauty
Motion give pleasure to this Sense as they are
in the line of Beauty and gentle, all the motions
of Childrens are graceful because they are gentle
swaying, Right Distance Distance & magnitude
give pleasure to the sight, a Lady who visited mount
Blanch in Switzerland stood for many minutes

motionless at the pleasure she experienced from the sight alone of that Mountain, & Mr Byrdone has pathetically described the joyful emotion he felt on beholding the rising Sun from the top of Mount Etna, motion & a loud Sound to its magnitude increase greatly the pleasure of the beholder, Contrast is a great Source of pleasure to the eye this pleasure is of a relative nature in sucking alone all the Senses are gratified

Hearing the pleasures of this Sense from words melodious & arranged as in eloquence, of the various tones are these distinguished, Love tone, bell tone, lisping tone, Velvet as if it rebounded from a Velvet Substance this is the tone of Children, but all this is small when compared to the pleasure of Music Vocal & instrumental, the feathed tribe charm us with the melody of their notes and in are much delighted with the general Summer of animated nature, none of these pleasures are incompanied connected with the ordinary & healthy function of the different ~~function~~ organs of Sense but are given by the beneficence of our creator to Swell the measure of mutal happiness, the pleasure of the Senses are in common to all the world the unlettered clown & man of Science enjoy them with equal satisfaction

Lecture 21st — Clinical

report, the case of Rheumaticula has this morning been translated to the bowels, the common distinction of rheumatism from gout is that rheumatism and

gout affect different parts, that rheumatism is conf
-ined to the limbs while gout affect both the limbs
and viceva here we see the insufficiency of this dist
-inction the patient is a sailor on whom we should
not expect to see the gout there is no doubt of his comp
-laint being a rheumatic one, I have ordered that
he should immediately lose 10 ℥ of blood and after
-wards 2 gr. of Opium & that opening glysters be fugue
-ntly given him — The case of Chronic diarrhea
which was checked by a salivation has returned this
is apt to be the case unless we interpose the most
powerfull tonics immediately after the salivation I
have ordered him the Chalk julep & 2 drachms of the
Cortex quinci. a tea spoon full every hour with 26 drops
of Laudanum in each dose he is to take two grains
of opium to night — A Case of Chronic hepatitis
the patient has no pain but his pulse indicate
too much action the liver is an insensible viscus
I therfore order him to lose 8 ℥ of blood & to continue
the powders of nitre & Tart Emetic as before — The
case of Mania is better, I infer it not only from
his pulse, but from the arrival of his domestic
affections I ordered him to continue the powders of
Tartar emetic & nitre and as his pulse is now of the
typhus kind ordered that he should have some rich
broth for his food — A W Blanchard with
the pulmonary Consumption, he has a Diarrhea
& Cough & fifty large quantities of matter from
his lungs, I ordered him a little port wine the chalk
julep & ij gr. of opium at night, & mercurial
ointment under his arm pits till it salivates
with this I have latterly made some extraordinary
cures — A Case of quotidian is just unlucked
the hospital he had the fits regularly for some

time before he intred the hospital, since hose he has taken only one dose of Castor oil this could han had but tittle effect yet he has had no return of paroxism since his entrance this D Rush attributes to the Stimulus of novelty which will in many Cases also excite diseases but tis not safe to trust a Cure thus made I therefore ordered him to take the bark my hour to prevent a relapse ——

In my last lecture
we considered the pleasures of the Senses it remains to
say a word of their final Cause, which are the
perpetuation of our species and the agreable discharge
of the great business of life, but these pleasures have
their disorders like the Senses themselves and are so
nearly allied to pain that they often terminate
in one another, thus the slave in the west indies often
agonising under the Lash of his cruel master often
burst into laughter in the face of his tormenting
tyrant and joy has often been so great as to produce
fainting & death, and tears are the frequent expression
of joy on meeting a connection who has been long
absent from us, those pleasures which are the most
exquisite are of the shortest duration and pain is close
on the heels of of exquisite delight, hence the fable of
Socrates —— We shall next consider the pleasures
of the different faculties of the Mind these may be
divided into two heads 1st the pleasure we enjoy in the
exercise of our own faculties and 2dly in beholding
the exertion of these faculties in other people and
first we will consider the pleasures of Memory
by means of this faculty we command around of
eternal pleasures, by the exercise of this faculty we
live our life over again, we know and distinguish
our friends it affords most pleasure when connected
with the imagination, Memory has this advant-

-tage over the imagination that it recalls pain without pailing it Imagination has not only the power of mixing Ideas but also sensations by which we not only command our past thoughts & actions but also our pleasures, thus a man of kind imma-gination not only remembers what he speaks but he also feels the original impressions which gave him the idea, this faculty combines graciously arranges our recollections, the transporting pleasures of this faculty may be imagination may be conceived from the poverty of the poets who sacrificed wealth and honour all to the delights of the imagination Next the understanding, the pleasure of this faculty is in the investigation discovery of truth, this pleasure is involuntary we can not perceive truth without the sensations of pleasure of this is thus abundant evidence in the indence of Archimides, and Lord Mayfield never knew thirst or hunger when first he knew the pleasure of novelty belongs to this sense Taste the pleasures of this faculty is in variety & painting this pleasure has been so great as to produce fainting, thus Octavia fainted on the prognostication of the future greatness of her son— Will, profile have fainted with joy from the extreme action of this faculty, memory & imagination combine with the understanding to constitute its pleasure ambition & avarice have their pleasures hope is a never failing source of pleasure, & the godlike passion of love makes a little heaven on earth. Domestic passions have their pleasures the birth of a child allways produces pleasure in the father a mother and children excite pleasure even in strangers Luther would often relax himself by playing with children and the pleasure of meeting a long absent child has produced fainting & even death

and a lady has been cured of mania by bearing & suckling a child it was again brought on by the father taking the child away least it should contract some disorder on to the same disease Moral facultly how shall I discribe the pleasures of this faculty in the exercise of benificence & justice towards man & piety towards god to discribe these would require a pen plucked from the wing of an angel, The pleasure of avarice is greater than the pain of scorn & the smile on the malicious mans cheek proves that he feels more pleasure in doing evil than pain from the contempt of good men this passion man possesses not only in common with the brutes but the infernal spirit whos only pleasure consists in doing evil a perversion of the moral faculty frequently induce one of the senses to act with it: thus a gentleman of the British parliament took pains to go in disguise to to almost every execution in London & to get as near the gallows as possible, and a gentleman of France has said that the most delightful music he ever heard was the noise of the Guillotine in cutting off the heads of his fellow creatures And a man in Confined in prison employed his time in giving poison to Cats & dogs, but this perversion of the moral faculty is no more proov of its non existance than the perversion of any other of the senses, the cessation from bodily labour after great fatigue affords pleasure & this observation will apply also to the mind as was manifest in Mr Gibbon after he had finished his work on the rise & fall of the roman empire; The cry of victory after a battle affords a compound pleasure the pleasure or joy of fear & the pleasure from the cessation of labour, these pleasures should be considered as articles of the Malum minus, the cry

of victory has roused the Scurvy from a stupor and we are so organised that the mind delights in tributary to one another in all these cases the pleasure is greater than when they singly act, all the faculties of the mind are employed in association & this in 19 cases out of 20 are agreable a house or barn by frequently led us back to the happy days of our infancy CONSCIENCE, this affords us continual pleasure by identifying our own mind, there never was a man who was willing to change his mind for that of any other man since the pleasure of knowing that we are what we wish to be. We must consider the pleasure we feel in witnessing the exertion of these faculties in other people make of us. feel delight in beholding great feats of the memory — We also feel the pleasure produced by the imagination of others when we read the speeches of Curran & Burke But these pleasures are feeble when compared to those we derive from the exercise of the Understanding in other men, & this is so than when we behold genius, which may be compared to a cordial while judgment and the understanding are the more solid & nutritious of aliment — Well a great share of this makes what we all admire an independant Man, Some people have no mile tis torpid and those men are governed by other people & others it is prevented
Motion is essential to pleasure it consists in a certain degree of impression in a certain order of this impression, the pleasure of tones consist in a certain degree and order of the different impressions on the ear, The same cause which in one degree produces pleasure in a different degree produces

produce pain, dois a cetain degree of distention
produce pain a more moderate degree will produ
does a certain degree of relaxation produce pain a
more moderate degree will produce pleasure, pain
and pleasure are owned from idosyncrasy thus the
touch of a peach give great pain to some people
& the most moderate action of the urinary passages
produced strangury; the pleasures of odours depend
on a certain degree of impression the harmony of
these impressions; the pleasure of sight depends
on the same principles, the ear is pleased with the
same order & degree of vibrations as the other senses
accession of blood is necessary to the proper action
of the senses but this is not general without exception
as in all cases of relaxation moderate & just order
of impression excite pleasure & vice versa.
a question here arises why do certain impressions
produce pleasure to this I must answer because it
has pleased god so to order it, Pleasure is a mere
quality, Why does strong & painful impressions
become agreable from repetition I answer by
bringing down the excitability to the pleasurable
point hence opium garlic and hence the air
which at lenth becomes agreable although at first
gave pain by the continuance of great stimuly
the nerves of sense become painless and in a
longer or shorter time agreable to the greater or less
quantity of excitability of the person hence
women can bear pain better than men, and weak
impressions produce pleasure from repetition
from the accumulation of excitability on the
force of habit. No two sensations can be felt at
the same time & opium only relieves pain by

inducing a greater action this principle will acc
ount for the insensibility of martyrs who expire on
the pile the sensation of enthusiasm prevents the
pain of the fire

Lecture 22d. Nov.r 30th 1807

The pleasure of the mind consists in an equable and
and moderate distribution of the brain in which it is
best fitted for reaction this D.r Rush calls the proximate
cause of the pleasures of the mind, the reaction of
the brain is proved by the powerful effects it opinely
on the nervous System by it producing dyspepsia
and indigestion as in many cases of dejection &
low spirits, it is proved by them increasing the exc
tions and glandula Systemi, the nerves feel the
primary Stimulus & by them com municated to
the mind it reacts on the nerves & muscles, the plea
sures of the mind become painful by extinction
pleasure follows the acquisition of knowledge and
is one of the final causes of this pleasure
things which were disagreable to the mind become
pleasing by repition Smore so than ideas which
were at first agreable D.r Priestly said that hallelu
-yo felt happy the night after Since affliction, thy
was by the dehausion of the excitability down
to the pleasurable point by the previous affe
-ction, do we derive pleasure & pain through the
same organs, we certainly do then let us not complain
of pain for when this ceases to afflict us we may
bid an eternal farewell to all our pleasures

Of Sleep life we have said consisted in impressi
-ons on the nervous System the same may be said
of the waking state, Sleep is the necessary effect
of a certain State of excitement when Sleep is
profound all the faculties partake of this repose

Dr Rush divides the subject of sleep into three heads just he treat of the proximate cause of sleep 2dly the remote cause of sleep & lastly of the phenomena of sleep & the he said some thing concerning dreams Sleep depends on a certain grade of excitement of the it may also be produced by an accumulation of the excitability in the nerves Cerebrum & Spinal marrow thus a man in Paris who had by an accident lost part of his cranium supported himself by shewing the effect of pressure on this part, a moderate degree of pressure would produce coma a greater degree sleep & a still greater apoplexy, he will suppose the grade of excitement in the brain to be 20, the remote causes of sleep are those Circumstances which reduce the excitement down to 20 when above & those which raise it to 20 when it is below this point labour is the most universal cause of sleep, certain stimulents as opium, strong drinks produce sleep by depression or wearing down the excitability to the sleeping point; fumes of burning charcoal produce sleep in this way, certain sounds produce sleep in this way hence the noise of a city produce sleep in persons not accustomed to it — heat applyed to the body after cold produces sleep in the same way, long and painful exercise of the understanding produce sleep by wearing down the excitability to the sleeping point thus generals sleep soundly the night before a battle from the exertion of the understanding in the arrangements of the preceding day and criminals are said to sleep soundly the night

before their execution, & quick frequently end in sleep
The remote Causes which produce sleep by inducing the
the excitement are the following, the abstraction of stimu
-lus of light & muscular motion, hence people fall a
sleep in the night in Certain conditions of system with
the most facility, Certain vacuations as of Blood
& purging produce sleep anointing the skin with
oil, Cold in this way produce sleep, gratifycation
of the Venial passion, Cessation of great pain &
debilitating passions produce sleep in this way
hence mothers sleep sound after the loss of a child
this theory completely defends the affections of the
disciples who were said to have slept during the
agonies of our Savior but should these sedatives
passions reduce the excitement below 20 then gentle
labour Moderate eating & Drinking small doses of
Coffee & Tea & opium, the inhabitants of the fall of
the Nile can not sleep when removed from home
and a watch maker could not sleep but with
many watches in the room all these are nec
-cary to raise the excitement to 20. the falling of
rain, the Communication of warmth, slight stif
-ness sometimes produced sleep a Lady who could not
sleep if the candles were blown out & who upon
a stop would awake instantly lived formerly in this
city. from what has been said of Laudanum we may
understand the Impropriety of apportioning the opium to
the Condition of the patient 1 ounce 5 drops of Laudan
-um will produce sound sleep when watching will
be the effect of 5 The Phenomena of sleep are
before we fall into sleep the senses are affected in the
following order first the eye fails, dull, then taste
smell, hearing & touch return in the order they

are written touch appears now to be entirely a sleep from the frequent change of our position in bed, some people start from the too sudden abstraction of stimulus. but in this retreat of the senses there is much inequality in some the hearing even appears to sleep, to produce the muscles & nerves must in an equal state of excitement sleep can not take when the muscles are at 20 & the nerves at 15 or 10 in sleep time is an abstraction of sensation, voluntary motion & diminution or cessation of the action of of all the senses in sleep, there is a diminution of sleep of sensibility in other parts of the body as stone in the bladder, in sleep the pulse is slower & fuller, this may be from the heat of the bed clothes — Tremors of the muscles are cured in sleep — The peristaltic motion of the bowels is slower in sleep, in sleep all the secretions are increased in sleep, hence the sinking of pile after sleep, the excretions are much diminished in sleep; there is according to some in the Constitution a Centripetal & Centrifugal force the latter takes in sleep hence people who sleep much are fatter than those who do not sleep so much, the heat of the body is much diminished in sleep; from this state of of the system we may account for the attack of disease in this state of the body in preference to a waking state — Children sleep much longer than adults & old men less than young men sleep is allways too long when it excedes 8 hours in the twenty four and few men have been distinguished in life for great mental exertion who have employed much of their time in sleep, The celebrated Mr Whitfield never slept more than 4 in the 24 hours,

we awake from sleep from the nervousness of the mind, the hearing first and then seeing & from the accumulation of the sections, when we sleep on a chair in wake more suddenly - after sleep all the faculties are prepared for their proper action and in due order, the moral faculty holds the uppermost place next the understanding & so on, the moral faculty is corrupted by its association during the day with the other faculties of the brain, hence the morning the best time for study & most favourable to the exercise of the moral duties in life, the strength of the body is least in the morning from the abstraction of stimulus, but tis now in the fittest state for the impression of stimulus, hence Indians always begin their battles at day break, to obviate this debility heaven has kindly provided that at this time herbs emit their strongest odours for the same purpose the feathered choir industriously chant their matin songs - from the foregoing explanation of the state of the body in the morning we see the impropriety of exercise before breakfast in the morning - old people have thought that they did not sleep at all for many years this arises from the gradual manner in which they wake and hence are not conscious of previous sleep

Dreams these are always a morbid phenomenon of the mind depend on imperfect sleep for when in sleep soundly we have no dreams, we have said that the sleeping the sleeping point in the brain we will say is 20 as in the senses, there are

common motions & motions & motions appro-
riate to the organs of Sense so in the brain there
are common motions & those which specifica-
lly produce ideas & thoughts the former
shall call mechanical & the latter mental
motions; in sound sleep all the faculties of
the mind are upon a par. now the applyca
tion of any stimulus which drives any one
of those faculties from the sleeping point
will produce dreams or incoherent thoughts
& the greater proportion of faculties that are
driven from par the greater the incoherence
of our dreams, thus suppose all the faculty
except the memory are driven from twenty
or thirty may dream of friends speaking &
associating who have been long dead, & the
moral faculty repose while the other faculty
are driven from par we dream of doing things
at which in our waking hours we would shudder
to think of, in the same way our taste is
perverted - Delerium is a high degree of dream
& dreams a low degree of deliriums, when
we dream about. To us have generally agreable
dreams but disagreable when blood, we can
dream of nothing that has not previously
been felt by the senses and the objects of our
dreams are generally visible, associations
are more vivid than in the waking
hours hence dormant ideas are revived in
dreams which had long been forgotten
I sailed for England in the year 1766 in comp

- any with one of my fellow students in the Jersey College I had totally forgotten that any one attended me to the ward except my Brother I would have qualified to it the morning before some night of 1802 when I dreamt I again imbarked for Endenborough to attend the Medical lectures. in my dream I saw not only my brother but also my fellow students together at the ward, I immediately went to the gentleman and informed me that he had recollected the time of our departure

Lecture 23d

Dr Rush in this lecture continues his explications of the phenomena of sleep upon this subject a question arises whether we always dream in our sleep but are unconscious of it or in this I agree with Mr Locke who thinks that in sound sleep the soul reposes with the body I would say soon think that imperceptible given excited in the blood vessels as that imperceptible thoughts pass through the mind in sleep without our knowledge the memory is more vivid, & the will acts more powerfully in the sleeping state than when we are awake this is proved from the liminal impressions which can not be produced in the waking hours. Dreams in some people are so vivid that they are mistaken for realities hence these people lose their characters for veracity without ever intending a falsehood — Certain impressions produce dreams related to them thus hunger will produce dreams of something to food, the

apostle was no doubt hungry when he saw the sheet
descend from heaven and all kinds of beasts and heard
a command arise peter slay & eat, the same effect
is produced by cold, Dreams are influenced by the
conversation that has previously engaged our all-
-entions, Some people hold conversations in their
sleep in these the ear is awake and when in this
hold a conversation our dreams are most coherent
for the impression of sound on the ear serves to
arrest the incoherent trains going on in the mind
Dr Haller is said to have written verses in his sleep
Somnambulists never recollect any thing when they
are awake of what they did in their somnambu-
-lar state, but in the next fit of somnambulism
they recollect any circumstance of the previous
fit, the same is the case with maniacs, when re-
-stored to health they forget any thing & any idea
they had in their madness but remember it if
they should relapse; there was a lady in this
city who when she became delirious spoke a
foreign language which none of her friends were able
to understand an old woman was sent for who
had been her nurse she immediately understood
her for she then spoke german a language
which she had learnt in infancy but had altogether
forgotten now then and the recollection
-ion in the somnambulist originated from the
same cause the motions of the somnambulist
are excited by a high degree of excitement in
certain parts of the brain, now the recollection
of an idea is the exact copie of the motion of the
organ which originally produced that idea

and the excitement of any one part not arising in our waking hours to that state of excitement in which the ideas of the somnambulist occured it can never reproduce the original ideas, Laleth the old Lady the learning of the Language was accompanyed with the usual high excitement of youth & the excitement of the brain in man, - ca produced a repetition of those ideas which had so long lain dormant on the mind - Thus my fellow Student in Edenborough who had got intoxicated at a house at which we dined together as I led him home to his lodgings spoke nothing but French to me and that fluently when I mentioned this to him the next day he said it was impopible for though he Cant French when a youth he had intirely forgotten it In somnambulest most of the faculties and senses are in action, they can often extract long stories from persons who talk in their sleep D Blacklock is said to have come down Stairs, Lupid with his family & sung a song and all the time asleep at some noise he started up much surprised to find himself out of bed, Usually dreams of persons we much admire and lovers seldom dream of one another the reason of this is that the excitability is too much worne down in our waking reflections to leave this part of the sensorium excitable to the stimuli of the night - When dreams are very frequent very painful & very regular it is indicative of the approach of disease & may frequently be prevented by early attention —— The use of sleep is to

admit the accumulation of excitability in all parts of the body & mind & to restore the faculties of the mind to their proper order, it serves to dispose associated trains of waking ideas thereby preventing their excess = Dreams are useful by preventing the too great accumulation of sensorial power during sleep & thereby depending the ansy from injury from the too sudden stimulus of light & sound in the morning

Appetite for food or liquor has been variously explained by different authors it has been ascribed to the agitation of the gastric liquor on the empty stomach by others it is supposed to arise from the stimulus of the bile, of this I think some cases occur in yellow fever of this marked appetite is soon often come the patient generally gets well but it remains any time he rarely recovers my own opinion is that appetite is produced from a certain relaxation of the stomach for if the stomach is above or below a certain grade of excitement appetite ceases: Thirst I conceive to consist in a relaxation of the salivary glands of the fauces, it is sometimes produced by pain, by opium & Digitalis which do not act specifically on the fauces

Lecture 24th

This being the hospital day D. Rush prescribed for the patients for the Case of Rheumatalgia he ordered the warm bath by vapour to be continued he is better from this regimen, the patient with rheumatic has used the vapour bath in this case as is intended to act sedatively by inducing perspiration & has had the desired effect the patients skin is much

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septus & his pulse bttes — The case of Epilepsy and mania is bttes this is effected by taking two pinches per week and using ordinary medicines in the form of snuff — The case of Diarrhea which had been cured by Mercury is bttr from the exhibition of the Chalk julep & Cortex gunei, he now takes a tea spoonful of Columbo 3 times a day for a sickness of the stomach of which he now complains the case of Chronic diarrhea is somewhat bttr from the Chalk julep & Cortex gunei I ordained him 1/2 Z galls & 2 drachms of Cinamon infused in Brandy & half pint of water he is to take 2 teaspoonfulls of this 3 times a day with 30 drops of laudanum I also ordered him a tight bandage around his belly which by the compression it produces I have found beneficial in diarrhea & Chronic Cholic, the hepaticular case is bttr he has less pain in his head & liver & his pulse is reduced, he goes on with the nitre & Tartar emetic, the case of derangement is bttr, there is still some action in the pulse & I ordered him a purge of 10 grs Calomel & 15 grains Jalap — The female patient in mania is nearly well this has been effected by purging bleeding & low diet, It is worth remembering that a derangement of the understanding is more favourable than a derangement of the senses — the quotidian pain of the patient with that disease has not returned this has been prevented by the exhibition of the bark

Causes Of Digestion,

of the digestive operation is performed in the mouth by being first divided by the teeth &

& afterwards moistened by the Saliva the more the food is chewed the easier it is digested, this is worthy of recollection, for it will appear that many diseases arise from chewing the food imperfectly the Stomach is so full of nerves, & so sentient to the sound state of mind and body that it is called the index of disease its associations in health and its sympathies in disease are almost universal, its association with the brain is so intimate that it frequently relieves the brain of affections to which it must have otherwise yielded it may be said to be the waste gate of the brain the agents of digestion are first trituration & 2dly solution I regret the agency of putrefaction from any agency in digestion and at once the food for being changed into chyle the other agents necessary in this process are heat Saliva & mucus at 98° degrees of Farenheit the gastric liquor has no more power of dissolving food than common water — the gastric juice is more abundant in childhood and in old age that the want of teeth may be obviated by its greater power & that the Stomach may thereby pay a debt previously incurred to the teeth, the gastric juice dissolves those easily meats that are well cooked & well masticated & particularly when boiled till they use thin Consence, the gastric liquor has been said to dissolve the Stomach after this is perhaps a mistake from supposing the mortified spots & ecchymoses which appear after to have been produced from this cause — The presence of nervous influence is essential to digestion — the gastric juice dissolves much of

an animal salt & has the power of curdling
milk & this particularly in young animals
We shall next mark some of the phenomena
of Degestion as it effects other parts; we weak people
after a full meal they feel a chill from the
too great stimulus of the food having exausted
too much excitability after this such people
have a quite sweat After a full meal there
there is frequently a Disposition to sleep from
the excitability being brought down to the sleeping
point Digestion is impaired by all the debilitating
passions and improved by all the stimulating or
hence Cheerful company after a full meal promoty
digestion — The Mental faculties are impaired by a
full meal; so fool a disposition to rest after a
full meal and digestion is favoured by it this
has been proved by giving the same quantity of
meat to two dogs & killing them both 4 hours after
one of the dogs had been at rest and the other in the
chase in the stomach of this latter the food
was found much less digested than in the one
which had rested the whole time; the state of the
atmosphere has great influence on digestion they
the Swiss Can digest food on his own native
mountain which he can digest in no other
place, the food generally rests in the stomach
from 1 to 7 hours before it undergoes digestion in
health, but Matters have laid in the stomach for
many weeks after the food passes into the Duodenum
in the fæces are precipitated by the mixture of
the bile but the bile has a different destiny While
therefore must Consider the Liver, the design of
this organ is to secern all the blood and to act
as a secretory organ with the pancreas to fit the
chyle for being Converted into red blood; & in fact the

from the use of liver in children & from 5/6ths of the
Pancreatic passing into the duodenum from the
Ductus Choledochus Communis, it is not probably
excrementitious — Limpn this from Chyle being
found in the blood after it has passed through the
lungs — from the quantity of blood from which the
bile is formed, from the blood being impregnated
in the ~~Arteries~~ from thence passing up Chyle
the blood in arabies is impregnated than in
health from the great quantity of Chyle in the
disease there is too much Chyle half formed
in the blood from the agitation of the Chyle fac
-tion action of the liver. I infer my opinion
from the taste of the bile which in children is
sweet and not bitter in adults agreable to some
late experiments — from the effects of intempe
-rance in the use of fat substances, in this
case the secretion is much increased, from
the great quantity of serum or Chyle in the
blood in some cases of hepatalgia in which
the chylefaction power of the liver is lost
Next the Gall bladder & cystic bile, the gall bladder
owes the same purpose to the liver that the Spleen
does to the whole system it receives the redundant
bile here the Magnates and undergoes a putrefaction
from which it derives its bitterness, the forces of
the body are not injurious to health bile they
undergo a second putrefaction out of the body
the gall or bile Stimulates the intestines gives tone
to the body precipitates the faeces ferments any
putrefaction excites the secretions & excretions
the gall bladder is to the liver what the colon is to
the stomach — In cases of long sickness & weakn
-ess of the stomach performs a vicarious office
in supporting the system with Chyle and thus

allways in proportion to the weakness of the stomach
When the stomach is most active the liver is most
active, in a recumbent posture the passage of the
bile is most easy from the ducts into the duoden-
um, hence the habit with most persons of going
to stool in the morning, hence the bilious stools
of sick persons in the morning (may not the
diseased state of drinking people arise from the
too great action imposed on it from the torpid
state of the stomach ? 70) the pulsation of the stom
ach. on the time after a full meal on the ali-
ments the Lacteals at the same time that it
pushes out the bile into the Duodenum the liver
may be compared to a second bolting cloth or a care
full housewife that collects all the scraps and
of them forms wholesome food — from this excre
-tories of the liver we may understand why
persons have large foecal discharges who have
eaten scarcely any thing — why a diseased state of
the stomach is attended with a similar state of
the liver & why the liver is affected by almost
all general diseases & particularly by the last
affections of the head; the sympathy of the
liver & stomach is so intimate that we must
ever suppose them affected together do we
wish to induce the system suddenly we must give
quick purges with other means — the liver may
be diseased in which the bile is not properly formed
such takes place in gout it requires evacuating
& tonics — There is a bilious diarrhea this
I would call a Lientery of the liver, as the
liver has an agency in the formation of the blood
then in all cases of its paucity or malformation
— on — we should apply some medicine that
operates chiefly on the liver this Medicine
is Mercury, if the stomach is unable to

digest the food as now see how the body may be supported by injecting the food into the bowels they will drink up the chyle and not by the stomach for it does not go into it but by the lacteals which in this way does the duty of the stomach

Lecture 25th

The chyle when formed either by the stomach or liver is poured out into the intestines and is taken into the system by a set of vessels called lacteals, but by what precise agency all the properties of the blood we do not know, the fact after passing into the the lower bowels more slowly that the chyle may be absorbed that by this peculiar quality & bulk they may from their stimulus serve to keep up the excitement of life. The Spleen I shall begin my account of the function of the Spleen by premising the following proposition, all the motions of the body are produced by stimuli from external or internal causes & are liable to run into excess, this observation is applycable to the blood vessels & produce an excessive circulation of the blood, for the obviation of the injuries which might arise from this excess to the more delicate parts of the body the Spleen is intended it may be said to be to the blood vessels what the gall bladder is to the liver I infer this opinion from the structure of the Spleen, having but one artery and that stronger than the aorta, the veins of this viscus are peculiarly strong - in having one artery it differs from the lungs through which the blood is

intended to pass rapidly & hence I infer the intention of its acting as a temporary residence for a portion of the blood in cases of great arterial activity. I infer this opinion from the texture of the Spleen which is soft & spongy and capable of being distended to four times its natural size without injury to itself its natural quantity of blood is one pound and it can hold four pounds without pain large as the artery is the Spleen is 80 times larger. I infer this opinion from the situation of the Spleen near to the heart where it gives a check to the circulating fluids at the place at which they move their greatest impetus, from the great space it occupies for its magnitude, from the power it has of retaining its distending power which is never lessened by fat I infer it from the phenomena in. excessive exercise who has not heard the school boy after playing prisoners base say out with pain in his left side of his stomach laughter produces a distention of the Spleen in the same in the same way when death has been produced by laughter it has probably been from the same pain is felt on a hard trotting horse in all. these cases the Spleen acts as a vessel kindly held up by nature for the reception of a part of the blood until the turbulence of excitement has subsided, I infer it from the nature of the blood in the Spleen which is less coagulable than in other parts of the body from the great force it has sustained in going into the Spleen I infer this action of the Spleen from the nature of the diseases which produce obst

-nections of the Spleen are seen - of many bodies
was found in an enlarged state & of others who
died of Dysentery the Spleen was found putrid
disposed thus probably from the long force it
had suffered during the disease - the excitement
of the blood spilled by the mind produce a
swelling of the Spleen particularly the mal
-ignant passions as anger &c In persons
who die Suddenly the Spleen is found
in its natural state, this from the sudden
distinction of the vital functions before the
Spleen has time to relieve them by taking
off the redundant blood - I infer this theory
from the diseases which follow an obstructed
Spleen, these are particularly hæmorrhagy
of the Stomach lungs & other parts, from the
top of the Spleen producing enlarged limpha
-tic[illegible] indigestion head ache and an increased
animal appetite - this organ is more incipient
in man than any other animal - does
the Spleen may act in Suffocating excess
of nervous & mental action I know not yet
from the great quantity of nerves & cellular
sensibility it possesses it may justly presumed
it has some effect in this way - The eye
has its black pigment for the protection of the
organ from too much light, the liver has its
gall bladder, the body has its cells and absorbents
why then should not the blood vessels have the
same resource in its Spleen a supplement I
would suppose a clue in the conformity of

nature this theory is widely applycable both
to pathology & practice from this theory we
one led to Solicit Jnely when the Spleen is affect
with Swelling 2d it will lead us to Suspect an
affection of the Spleen in haemorhagus and
particularly of the Stomach lungs & Lungs
it will lead us to Suspect & the Spleen affected in
most consumptional cases of 38 persons who
died of pulmonary Consumption a majority
of them had enlarged Spleens, tis probable
that Salivation in this disease is by restor
-ing the the healthy action of the Spleen as con
-nected with the Spleen in its Operation I
shall speak of Thyroid Gland the fun
-ction of this gland is to defend the brain from the
violent action of the blood it also defend the Lungs
in loud Speaking I infer it from the situation and
Structure of the Thyroid gland from its Large artery
from its being of a Larger Size in women than men
for the greater defence of thin brain and more
delicate organs of Speech (& also perhaps for the pro
-duction of the head in Childbirth & during gestation)
The Globus hystericus is a diminution of the excessive action
of the head to the Stomach thus relieving the brain
I infer it from the effect of a swelling or loss of this
gland on the brain which effects with entirely
the extirpation of this gland has also effected dogs
with fatality & this gland is much Swelled in
many Cases of Mania in which we know the
is an excessive action in the brain We shall next
Speak of the Blood but first we may say that is
probable that the Thyroid gland may serve to pro
-tect the lungs Liver and mind in loud Speech

the blood is the same in all animals who have red blood, it is paler in Children & old age from the greater quantity of Coagulable Lymph, various circumstances accelerate or retard the Coagulation, it coagulates sooner in a cold room than warm sooner in a wooden Vessell than a metal one sooner in a narrow Cylindrical Vessell than in a wide & shallow one. Loses when drawn from a large orifice a certain degree of animal action produces a buff on the blood but a still higher degree of action destroys the power of Coagulation — it Coagulates when taken from the arteries and not from the veins — a higher degree of Stimulus by heat produces a dissolution of the blood the blood drawn from the arm of a young who exposed himself to a hot bath was dissolved — The buff has been removed from the blood of a horse by giving a quantity which could act only by stimulating the vessels to greater action, Mercury has produced the same effect in man, tis probable that the blood is instantly by the poison of the viper broken down & the texture of the fibrin destroyed since after its bite the blood is allways found dissolved — The Carbonic acid gas when it produces Death dissolves the whole mass of the blood — If you take two quantities of blood from a patient in inflamatory fever the last drawn will Coagulate in the least time if they are drawn & set away under Similar Circumstances this increased the Coagulability of the blood only by inducing the animal action the coagulation of blood depends on its Lymph this has been thought to be the seat of life or to possess life from its texture like a muscle & from its having contract-

from the applycation of galvanism to it, a deffective
action of the arteries may produce a deposition
of the blood. There are three degrees according to
which the blood is more or lys disposed in lymphatic
it is buffed in a still higher it is broken like a
macerated muscle in a still higher degree it produces
a membrane, the buff of the blood of a diseased
persons is more putrifactive than in a healthy
person from its being more animalised — The whole
mass of the fibrin of the blood may be considered
as one single muscle its fibres has been seen to
contract and once have supposed the expansion
of the artery to depend much on this fibrin
when the blood is deposited it should be said to
be dead & when restored resuscitated — Serum, they
forms the deposition in dropsy & for no purpose
necessary for the healing of ulcers — Red globules they are not round when dry is inflamable but
is not oily the blood of an adult contains about 23
of phosphoric acid, the is dark red from an incomplete oxydation — the red is not the most important
part of the blood the natures have from the
nature of their have been found to posess but
little redness in the blood, the use of this
part of the blood is to keep the lymph in
a fluid state & to stimulate the it spells to the
discharge of their proper action it however
has its diseases, by pushing its way into the
lymphatic spells, bursting other spells and
producing congestion in other spells, escape
of bile & salts has no effect on this part of the
blood and it resists the effects of putrid matter
the intention of the whole is to impart life

by its specific quality & mechanical impression
and to afford all the secretions

Lecture 26th

The thyroid gland I have said was intended to
suffocate the excessive motions & sensations & passions
of the mind and brain, it is larger in women from
the necessity of defending their brain from the more
numerous vexations & irritations to which they are
subject — the thyroid gland is enlarged in Hysteria

Blood various causes act
in disposing the same blood to coagulate in a
shorter or longer time, thus tying up the arm for
some time before the blood will produce a quicker
coagulation, to produce Buff the action of the arteries
should be moderate & generally takes place in
Synocula, and is produced in great abundance in
the blood of pregnant women, the fibrin which
constitutes the tenacity of the blood is sometimes dispos-
-ed from too great or too small action hence the
blood is sometimes dissolved in the viens & not in the
arteries and sometimes in the arteries & not in
the viens, the Blood is found dissolved in Scurvy &
in tetanus many other diseases it is disposed
in high grades of Bilious fever, I suppose that
as points not sensible in health become so from inflam
-mation that thus arises from the fibrin being ins
-inuated into it & from the fibrin becoming more
anomalised by the circulation the lymph is compo
-sed of 3 parts Potatin albumen & fibrin, the ordin
-ary quantity of blood in a man of ordinary size
is 25 pounds — Next we shall consider the

Lymphatics upon this subject we are yet much
in the dark, my own knowledge of them is but
little better than it was a year after I began the
study of Medicine I shall however collect such
facts as appear establish & make some inductions
from them. the lymphatics arise from all parts of
the body and after passing through conglobate
glands carry their fluids into the thoracic duct
by which it is conveyed into the system — but all
the Lymphatics of the system do not discharge
their contents into the thoracic duct, the
lymphatics have a power of carrying forward
their contents, their coats are like the veins
and like them they are full provided with
valves and they have great irritability they all
have arteries veins & have mouths which pud
on Solid as well as fluid matter, they have
peculiar appetencies — In what manner is
Lymph formed it is denied, too much action of
the Lymphatics produce a membrane & pus is
produced from an inflammation of these
vessels, the pus is taken up by the muscular action
of the mouths of the Lymphatics excited by the spe-
cific Stimulus of their appropriate fluids
they convey their fluids after they are received by
the pulsation of the adjacent blood vessels by the
action of the adjacent muscles & by their own
absorbent power — the Lymphatics have been
found in all parts of the body except the brain &
that they are denied upon from the swelling of
the lymphatic vessels of the neck in diseases of the
brain, from the cure of hydrocephalus internus

which can not be done by the veins since they are
never known to perform the Office of absorbents. from
the distinction of the Thyroid gland producing a
similar conclusion, The Arteries and Lymphatics
perform different offices in the body & seem to act
perpetuall stripe and on the Continuance of this
stripe life depends the arteries seem destined & add
to the System & the Lymphatics to take from it, the
Lymphatics not only absorb Lymph from the cavities
of the body but moisture from the air by means
of a set of them called Cutanious, this power of
the Lymphatics has fately called in question by
Dr Clap & others of this place this opinion is
confirmed by many experiment going to prove
that no absorption takes place from the body of
the Lungs are not concerned & supposing that
salivation was produced by the inhalation of the
& absorption by the Lungs the relief given to thirst
& sponges by the warm bath is not from the absorp
-tion of any fluid but from the Sympathy of the
nerves of the fauces & Stomach with those of the
skin which were stimulated by the warm bath, the
effect will allways be greater if the bath is of salt
water from its more stimulent quality - The
various matter will affect the System when it
is applyed to a part of the skin which is unbroken
to detain this matter I have frequently bound the
matter on the arm for weaks but have never
thus given infection; no poison can affect the
unless applyed to a part of the skin deprived of its

epidermis a which has the powr from its acrimony to erode the skin. Mercury is thought to salivate from the Sympathy of the Salivary glands with the vessells of the skin. or from the absorption of vapour in the Lungs which exhale in the ordinary use of of Mercury by fuction. Mercurial ointment has been used in the discussion of tumors this they do from the stimulus of fuction nothing can be infered from the effects of tobacco and other narcotic plants in favour of Cutaneous absorption all this may depend on nervous Sympathy If this theory should be established it will entirely do away the long injurious idea of the contagious nature of Plague & yellow fever, and it will lead to defend and guard the lungs when exposed to the infection of any disease or it will learn us to use such stimuli as may for the time Suspend the absorbing principle of the Lungs; The following circumstances accentuate absorption Just previous the absorption of bile in jaundice is probably from that cause, and the cure of Dropsy from lax drafts could have had no other effects than the prepone given to the mouths of the absorbent vessells, the ulcerations which occur in patients with typhus fever who are long confined to bed are produced by the effect of prepone on the absorbents of the part, absorption is much increased by fuction & this in Dropsy to be effectual should allways be made from below upward & in the morning — Puking increases absorption a Large bolus was cured by a man having taken 5r of tartar Emetic instead of an anodyne; Purging

promotes absorption this is proved from the body
weighing more after the operation of opium than
before —— Abstinence and depressing passions prod
greater absorption as is seen in the cramps of the
scavenger & swine in the street; not to shall
speak of the Excretions these are all formed by means
of glands which are found by Mr John Hunter to be alto
gether vascular the glands are a most important set
of organs, the different nations though formed from the
same materials by the all the glands are widely
different in their properties I exclude fat from the
Excretions the more obvious the process of Excretion
the less the Excreted matter is like the blood, the
same circumstance applies to irritably, in health
the production of each Excretory organ is always
the same, the functions of the Excretions are frequ
ently translated thus the lungs have been
known to secrete bile & the vagina menstruous
blood in pregnancy, a woman after being delivered
of a Child which died soon after sucked from
her stomach much matter which had the
appearance of curdled milk Excreted matters
are thus also translated

Lecture 27th Chronical

the Case of Diarrhea is no bills I have ord
d him to take the Cassa Water not more than a
spoonfull at a time, afterwards to take 20 drops
of Laudanum & a pair of Blisters to his wrists
another Case of Chronic Diarrhea is no bills I
have ordered him to take injections compound of
20 drops of Laudanum a spoonfull of starch &
℈ij of Ipecacuanha from this medicine I have
lately obtained the greatest benefit in Diarrhea
of the Chronic Kind; the Case of hepatitis is much

bitter I have ordered him a little Castor oil for the costiveness of which he complains & he goes on with his Tinct & Tartar Emetic — The private patient in Mania is getting well his cure has been much accelerated by removing him from his family & it should allways be remembered in the Cure of Mania to deprive as many ancient associations as possible you will recollect that in the Cure of this case I have prescribed nothing Specific nothing but would have been useless in an inflammation of any other viscus except those means which have been addressed to the ~~the~~ understanding The patient with Consumption died suddenly on Friday last this must have originated from the rupture of some upell of the Lungs a from the bursting of an abscess thus drowning the Lungs in this way Consumption frequently terminates and allmost allways when it terminates suddenly ——— A recent of Mania to day admitted I have ordered him to lose 10 Z. blood to take a purge Calomel 10 & Jalap 15 grains. to take the Tinct & Tartar emetic powder & to lose the antiphlogistic regimen, the Case of Diarrhea and by salivation has again ceased; the Case of Rheumatism is much better ———

We shall now proceed with the Secretions the Lymph from any part of the body except the brain and of the Lymphatic glands; it attracts the Oxygen of the atmospheric air for this reason that fasting spittle has been of use in old ulcers, may not putridity be produced a

something like it by the action of mucus on the system — The pancreatic juice has the same effect on the chyle which the Saliva has on the food it prepares the chyle for being received into the blood The Synovia is secreted and deposited in the cavities of the joints, the urine is composed of no less than eleven different matters, since the impossibility of finding a uniform solvent of the urinary Calculus urine & urical Calculi have been worked up from the stomach, the passions effect the quantity of urine as fear and study they both increase it the urine of Children & much more bland than that of old people from their urine not containing so much phosphate of lime that material being wanted for the formation of their bones, diseases of the kidneys more frequent in cold than hot Climates — Semen, this secretion has a pungent disagreeable taste it is composed of seminal different ingredients according to Chymists, its much altered in appearance from Onanism in which blood has been discharged in old people this discharge is so acrimonious in some as produce a burning in the urethra after coition, the prostate gland discharge a liquor which is mixed with the semen in its passage out of the penis for what particular purpose we do not yet understand it may be however intended to cover the acrimony of the semen — The tears are increased in acrimony in old age hence they excoriate the fauces & lips when they run over the cheek Milk, this is secreted from the chyle tis the same to chyle that the chyle is to the coagulable Lymph a cow has given 61 pounds of milk in a day milk

milk contains oil mucilage & whey hence tis not admissible in cases where depletion is used as a medicine, the milk is much affected by the passions a child has been plung into convulsions from sucking an angry nurse, yet a child may suck a woman a woman who has the mineral without imbibing the disease provided its lips are sound, the faeces is probably a secretion, the secretion of foeces.
Alexander used to say but for his passion for women he should think himself a god but had he withought himself of his common necessity of discharging his foeces like other men he might have had a sufficiency of his mortality after the foeces leave the colon they pass slowly down the intestines pushing on in their way ——— Bile this is secreted by the liver as it passes into the intestines its bilious and colouring matter is precipitated with the foeces the nutricious part is absorbed & mixed with the mass of blood, the natural colour is yellow & only becomes green from a mixture with an acid in the bowels it stimulates the bowels to push off the foeces — the secretion of bile is much increased by the passions particularly those of the malignant kind I knew a young man in this City who received an insult in a Company which he could not immediately resent he immediately went out to recruit himself by discharging by the bowels a gill of bile thus the liver became one of the waste gates of excessive impression The Fat is contained in the cavities of the body in cells which have no communication with each other, it becomes fluid

by exercise & by the purpose of the muscles from exercise, it generally occurs in people about 40 years of age and at this age is less injurious than in youth but young men who are fat tire to old age, sailors & savages are seldom fat from the arduous and hard lives they lead, fatness seems in many cases a hereditary disorder, Rest is favourable to fatness all animals as well as men grow poor from great fatigue 2dly frequent bloodletting produce fatness this it does from women being often in fat than men from the cold of winter producing fat & not the heat of Summer, Equanimity of mind and perhaps the absence of all mind produce fatness — protracted sleep produces fatness — diminished perspiration produces fatness — Castration is favourable to fat persons & animals who are fat have less blood than those that are lean, the lunar comes from the same vessels that affords the perspirable matter, we know it from confining the hand under a glass vessel when it becomes dim from the condensation of the matter, we know it by means of glasses by which we may see it coming from the pores of the body with a velocity sufficient to carry 3 or 4 inches from the body, the perspirable matter is not a secretion it comes only from the extremities of the arteries it consists of water saline matter & phosphate of lime the perspirable matter is different in different ages & in different people hence dogs can

Scent out the back of them Masters among a thou-
sand hard working people have more forted pusti-
ration than those who do not labour it is dis-
cut in different ages and the smell of some
men have been so acute as to distinguish by
the smell a Virgin from a maried woman
it is affected by certain ms & by the taking of ani-
mal food — from the vaccation of the same
spells the sweat is emited when obstructed is discharg
by urine, & stool, when moderate is supposed that
33⅓ are discharged by pusspiration, In Italy it is
said to amount to 5/3th of all that is taken into
the body more in Summer than Winter, is differe
in different situations more in waking than sleep, it
is greater in bed than out of bd, hence the propriety
of directing patients in a weak state to sit up as much
as posible while they are awake, the passions inc
rease the stimulus & consequently the pusspiration
any thing that produces a greater circulation will
also produce a greater pusspiration

Lecture 28th Oct.

In my last lecture I mentioned the bile among
the excretions I there meant only the cystic
bile which may be considered as an excretion
from the hepatic bile. pusspiration is an excre
tion not a secretion, tis a matter secernens
every different person in all persons produced
in greater quantities by fluid than by solid
aliment, in greater quantity in women than
men, greater for 9 hours in bd than in 15
hours out of bd Provided we do not sleep

Nutrition upon this subject there has been
two opinions, first that nutriment was con
veyed to the System by means of the nerves and
Secondly by means of the arteries, in opposition
to this first opinion it is said that the
blood cells are formed before the nerves at
least they are formed as soon, if nutriment
was conveyed by the nerves then the nerves of
any animal should be in proportion to its
size which is not the case as we see in the
brain of a man & an ox, persons have
been born plump and apparently well nour
-ished who had no head at all & those parts
of the body which have small nerves office
in number grow as fast as those which
are more abundantly supplyed bones are
not coloured by means of nerves and the colour
-ing matter is not again absorbed by nerves
all other matters in the System are carried
by cells of the System why then should they
not carry nutriment, various experiments
go to shew that the nerves do not carry the
nourishment to the parts of the body this
office of the blood cells extends our view
of this nature D. Bocchanan made use
ful the Solar organization of disease to
the blood & Broussais called to the nerves
it becomes us to look for the causes of
Disease all parts of the body and parti
-cularly in the blood cells — in nou

proceed to speak of the peculiarities of the
male & female Constitution and first of
the female 1st women are less than men
they acquire their growth sooner than men
the texture of their solids is more compact, their
bones are softer smaller than mens & we
can frequently distinguish a female ske
leton by the indentations of the blood vess
their cuticle is smoother & softer and their
cellular substance of a looser texture, their
lymphatics are more active which is favour
-able to their sedentary life, their hands
are feet are less, their arteries respire less
strictly but more contractilely from a pecu
liar laxity seldom in men which is from
the internal coat being less compact than
in men their nerves are more sensible, they
have more sensibility both of body and mind
their hair more subject to motion than mens
women perspire more than men, the thorax
is moved more & the abdomen less in respiration
their voice is more soft & shrill women are more
long lived that is more women live to extreme
old age than men, the difference between the
minds of females & males is as natural and
certain as that of their bodies & that indep
-endant of all education, the understanding
of women is less vigorous & less comprehensive
than men, the same may be said of their
imagination — In memory they excede
men in the recollection of words & events but

are superior in the recollection of ideas, hence
indeed intrust all their traditions to women
they are superior in the faculty of taste &
hence they are better judges of dress & manners
& hence a young man is so frequently improved
in these particulars by keeping female com-
-pany; the moral faculty in women is more
acute than in men they are more disposed
to religion & their sense of duty is more acute
-ute, their moral faculty though more
active is less extended than in men, their
kindness seldom goes beyond their relations
neighbours & friends they are more charitable
but less benevolent, we seldom see the affection
of woman embrace the world, our Saviour
said was never insulted by a woman from
their greater kindness; their conscience is
sensible than in men, they have more
modesty & delicacy than men & thus from
instinct & not education, they are more
inclined to despair than men hence the
propriety in extreme cases of removing a
child or man from the care of a mother a nurse
& entrusting their care to men in this
way I think I have said many times. I
will now speak of the operations of their
minds, their perceptions are quicker than
mens, their judgment is more accurate & their
reason is more certain than men, they
have more fortitude yet is courage than
men fortitude is a passive courage an active

principle, they are more inclined to society than men, they keep other peoples secrets worse than own secrets better than men they are less disposed to forgive them men, hence this disposition is always a sign of a little mind in a man, they are less subject to the venereal appetite; the theory of Mr Malthus era- -ft is absurd in supposing women sometimes excede men in immorality but rarely in intellect- -ual powers — The catamenia appears ayes in different climates and there is less variety in the same climate, in hot climates it appears at an early period, it is so much affected by heat that even in hot stove rooms in cold countries the ladies who are confined in them menstru- -ate sooner than those exposed to the cold. it appears sooner in high life than among the lower classes of society & particularly than those who work in the open air, I knew 3 girls who lived in this city who menstruated at 7 years of age and 2 of them of one family in the Middle States of America the usual period of menstruation is from 14 to 16 years of age at about 45 or 50 years of age the menses cease to flow but in some cases they have continued to 100 years & hard drinkers frequently menstruate till they are 60 years of age, the menses sometimes return after their cessation this has happened at 70 years of age after 15 years cessation they have returned at 60 years of age after having ceased 40 years

they Cease sooner those who Labour in the open air than in those of easier & higher life, the quantity of the menses is generally not more than from 3. to 5 Ozs. & in general the flow Continues about 2. 3 or 4 days this is the Case in the Middle States of the U.S.— the Catamenia generally Ceases in pregnancy. yet some women have Discharged blood from the vagina in every month of gestation, the menses Cease also in those who give suck till about the 11th month when they again appear, Women at this time are more irritable and are more Susceptible of Disease than at any other & at this time their diseases are more violent the pulse is more active at this time than in ordinary health; a morbid excitement at this time in the uterus produce that membrane which women often void with their menses I will shew you with much care; the Catamenia continues during mama and pulmonary Consumption and appears to have independant function for it often continues in fever and is the Cause to much opposition to bloodletting but should never deter us from its use where its necessity is indicated by the pulse &c, there have been three opinions on the cause of Catamenia. D Brown puts its cause in the Mental appetite, it has been attributed to agreement in tone & sympses have been supposed to exist in the uterus for the collection of the blood thrown there from plethora, to this plethora women are peculiarly subject from their sedentary hirs

Laxity of their fibres & by prospiration, this
plethora is both general & local, general while
the Vessels do not flow and determined to the
uterus at this particular time this & impe
from the Vessels being discharged from the
lips & even from the lips of the pudens these
parts performing the vicarious duty to the
lungs and certain diseases which debilitate the
whole System suspend the discharge, but in
consumption in which it does not cease the
appetite for food is frequently unimpaired
I am of opinion that the final Causes of
this discharge is to give that fullness and
tension to the womb necessary to the general
gratification & to Conception, this & impe
from the greater disposition to gratification
a few days before & after & at this time they
are more apt to Concieve from the appear
ances which under the general organ
in animals which is generally a slight
inflammation of the part, this discharge
is from the arteries & not from the
veins, which in this part have no valves
this blood does not coagulate when the person
is in health but in disease it does coagulate
the regular periods of this discharge has its
cause in a recurrence of ideas & motions
from the accumulation of blood, women
have been Children before & after they have
ceased to menstruate they have had children

in habitual obstructions, & women have men-
struated during pregnancy which seems to
destroy the notion of its being intended to
nourish the foetus independant of many other
arguments which might be misconstrued
turned against this idea, from the ideas
we have suggested we may learn why women
have a greater inclination for the pleasure
of coition in the beginning of gonorrhea
the uterus in virgins is not larger than a
bean and in old women it is the same male
sex. it is larger while they continue to men-
struate

LECTURE 29th

We shall not proceed with the peculiarity of the
male body any thing that has been said on physiology
with a few exceptions are applicable to males, these excep-
tions were marked when treating of the female about
the age of 14 which is the age of puberty many changes
take place in the male body there is an enlargement
of the bones of the nose & forehead, the voice becomes
hoarse the Speech is much changed this change gene-
rally occurs at 14 years of age yet to this there are
exceptions a lad in this city at 8 years had aband
his voice was hoarse & he had the sexual appetite
this change has been attributed to the absorption
of the seminal matter this they infer from
the testes undergoing no such change, I object
to this opinion that a particle of semen is
absorbed in women & yet the same changes
observable in them, I believe it the effect of
the stimulus of the semen on the whole

communicated by sympathy to all parts of
the body from the application of this nux Vomi-
-ica. the eye, ear & genitals are stimulated by
the secretion of the stomach and uterus in
the same way and this long before the mat
-erials could have inland the system impreg
-nancy the mouth is distended & the employ
of these spells has the same effect as castration
the least age at which marriage should take
place is 16. in women & twenty one in men &
the longer it is deferred provided it does not
exceed 24 in women & 30 in men. the offspring
is like to succeed to the funereal qualification
in any rank and any situation of life the
venereal appetite is felt in a greater or less
degree, in convalescents from malignant
fever in mania in idiotism, & even the
near approach of death can not destroy it
tis happy for mankind that passion has taken
the business of matrimony out of the hand of reason
It appears certain that the ovaria contain ova &
that the fecundating principle exists in the male
semen, how are they brought in contact, from
the experiments of Spalanzani may not the semen
be absorbed in the Vagina & conveyed through the
mideum of the blood to the ova this I think
is the most probable theory this excites a specific
influence on the ovaria & on no other part of
the body, the Linnen in the formation of the
foetus not only influenced by mother & this
more from the mother than father

there has been few men of distinctions whose
mothers afathers did not possess minds of
an unusual face — there is no necessary
connection between Pain & childbearing, the
pain is as much a disease as a pleurisy or dropsy
and to be relieved as certainly by the exhibition of certain
medicines, the Chief of these yet employed is bloodletting
Some days before the birth — there is no connections
between the marks on children & the thing longed for
it is the effect of that plethora which is so favourable
to Suppuration communicated to the Child from the Mother
for where blooding has been sufficiently used these
spots seldom appear

Lecture 30th

I have no doubt of the possibility prolonging life to
the fatality of any other circumstance but old age
this must depend much on the regular use of
exercise, & on the food & drinks in use in quantity &
quality, all food that is agreable & easily on
the Stomach is wholesome, that man is fitted to
eat both vegetable & animal food is inferred from
either of them separately used producing disease some
aliments are agreable & wholesome to each kind of
life and aliments that are agreable to one time
are disagreable in another — Men should eat often
digestion is then better performed a little food often
taken during the day is more conducive to health
than greater & the same quantity taken at 2 or 3 meals
no drink should be used after meals nor while in
except about half a pint of water more than thirst to
much dilutes the gastric juice & spirit excites the

the stomach to take in more food than it can digest if any drink is taken it should be after a meal when one meal is made in the day larger than the rest this should be made in the evening & he should not for some hours after sleep when falling up in an armed chair is conducive to health but he should not go to bed — no health should be drank at table it pervades the proper flavour of the food & the finish pear banished, digestion is promoted by cheerful company & feeral in the course of dinner a meal is the quantity of food for a labouring man 4 pounds in 24 hours but few men require more than 2 pounds by those who live a sedentary life, one ma should always be regarded, man, to eat after or begin to determine whether or should eat more or not. man is the only animals who takes his food warm in this way it is in offensive & promotes digestion, health is also promoted by occasional abstinence, hence D Franklin regularly one a week had on light table food, this he said was to give nature a holiday time to clean out her streets — the wholesomeness of animal food depends on its solubility in the stomach, the male animals are up double than female, young ones up to than animals at mature age, castrated animals more so than uncastrated, young animals are up stimulent though up double than old ones should be pursued in convalescent state of the body animals suddenly fatened are up double than those which are longer fatened & more exercised, wild animal food is more digestible from the greater quantity of blood contained in their flesh, it passes sooner out of the stomach, hence so much of its nutricious matter is not taken up, the longer meat is

Kept proved it does not putrify the cause it is of solution, this in Summer is best done by sinking the meat below water in a cool Cellar or ice house here it may be kept for many days, the Cellar should have a Summery - tenderness of meat depending very much done, well mastication and being well eaten before it is cooked, the light of the moon by certainly hasten putrefaction and does also lightning + thunder certainly hasten putrefaction Soup to be good to be good should be boiled at least 4 or 5 hours on a fire that does not make the water boil, roasted meat is more nourishing than boiled, the meat of a baked pig very digestible, the more juice pusend in the meat the more degestible it is

Lecture 31st

Fish are less stimulent than other flesh and consequently better adapted to convalescence, the custom of keeping it is arise regulation it prevents the inflammatory diseases to which we are exposed in the Spring of the year; eggs are a compound substance the yolk is animal & more easily digestible & mus should be cooked in water of a boiling heat, Condiments are necessary to the solution of our food in the stomach, salt is one of the best of Condiments it promotes digestion & gives tone to the stomach, a tea spoonfull of salt after dinner is better than all the Spirits or drinks in the world, pepper & spice is necessary for old people & for Southern people mustard & horse radish should be used with great caution & moderation. Sugar is the most nutricious of all aliments, it

holds the second grade of nourishment, & Gluten & Mucilage the third grade of nutricious matters Coffee & tea have no nourishment in themselves Coffee acts primarily on the brain & tea on the nerves and Muscles, taken of due strength & in moderate quantity they are inoffensive Coffee is proper after great fatigue either of body or mind & after a full or oppressive meal, after intemperance in drink or after too free use of Opium, in depressed state of mind, & where wakefulness is required, & to prevent the morbid effects of cold when we are about to ride or walk in cold weather — Sweet wines are the most nourishing, White wine is the most wholesome the gout is not known in Madeira Malt liquors are improper except for persons who Labour in the open air, Cider produces Rheumatism & gout & improper for delicate persons. Punch is the most wholesome manner in which Spirits can be used - Water is the most wholesome & the most pleasant of all drinks, Drink should be changed with the weather even many times a day if the temperature changes so often in this way many men have greatly prolonged their health & prolonged their lives, this inattention to drink has been the great source of ill to new comers in all parts of the world and in no part of the world should cold be more guarded against than in hot climates, the Cold bath is too violent for delicate life, washing to put in Cold water at the same time we do our faces will be conducive to health, Labour or some exercise as a substitute is absolutely necessary to health, it should however never be taken early in the morning before we take some

food no immediately after a full the exercise should not be so severe as to fatigue it should be performed in the open air & all parts of the body should be exercised, riding on horseback is preferable to carriage or walking, here D. Rush gave many useful hints for the management of the horse, the manner of feeding riding &c. he should never lie down for two or three hours after supper

Pathology — Lecture 32d

We are now to take a view of man in a diseased state the life of man was not Antaled to its present duration till after the flood. life is the consequence of a constant struggle between external stimulus and the natural disposition of the body to death, when in disease we enjoy health it leads to the study of anatomy in search of the seats & causes of diseases 2ly it leads us to the study of Physiology 3dly to the study of the nature of vegetable mineral & animal substances and thus enhancing our conceptions of humanity, it opens a field for the exercise of humanity & this approaches us to the character of divinity it gives us a great relish for health, & is kindly sent to reconcile us to death; In Pathology I am left without a guide, By Pathology I mean a history of the causes, seat, & symptoms of diseases — Causes are divided into remote or predisposing Cause exciting or occasional cause, and the proximate Cause by which I mean the disease itself, thus cold may be the predisposing Cause & a contraction the heat of the skin the exciting Cause & a contraction of the arterial system the proximate Cause — I shall begin this matter by making debility the predisposing cause of all diseases this debility is natural or acquired and in all have more or less of this debility or predisposition to some one or more diseases, Debility in childhood is produced by injuries by washing their bodies in soap water warm — by exposure a unwholesome diet and by

Exciting a mass of an angry temper, by the use of tight swaddlings, by opium and ardent spirit — by this primal -ure application to Stimulus disproportionate to the age by confinement for Lineal hours to one position or Bench in schools, the despotism of school masters produce debility both of mind & body. Whipping & punching children als produce debility — debility is also produced in youth & Adult & in old age from various causes it is sometimes general but more frequently partial — I exclude intirely the term of Temperament & for it shall use Predisposition of this there are the arterial, Hepatic, Muscular, Nervous, Cephalic, Phrenetic, Alimentary, Lymphatic, & Cutaneus, The arterial may be divided into three to wit Pulmonary, Aortal & uterine, in the hepatic predisposition the Liver is preternatturally Large, this predisposition generally occurs in hot Climates or in hot weather in moderate Climates, The nervous predisposition is subject to be agitated by slight impressions, hence are happy and miserable in the same day such people may be said to be all nerve — The Muscular predisposition have little sensibility but great mutability of the muscular fibre. not is Pamphle to them and they repose only in activity, they are attended generally with but little mind this disposition seem to be all muscle The Cephalic attended with pains in the under region of the head While the Phrenitic is attended with a Similar pain in the upper part of the head this predisposition discovers itself in youth by an aptitude for great acquirements & subject to delirium & the Lunation of pain in the absence of mental illuminents, Alimentary predisposition may be divided into gastritic and intestinal, the one may be descan

and the other not, in the Lymphatic predisposition the absorbents act with undue Celerity & free and are moved by the slightest impressions— The Cutaneous predisposition is discovered in the great aptitude in the skin to eruptions from slight causes & the difficulty of healing sores on the skin, I have thus enumerated the principle predispositions of the living body, to one or more of these all men are disposed perfect health like perfect virtue is rarely if ever to be found, the arterial & hepatic predispositions are generally united in hot climates, the hepatic & alimentary are sometimes united, the muscular & alimentary in Children, the nervous muscular & Cephalic are sometimes united, the Cephalic & Stomachic, the nervous Cephalic & hypochondriac, the nervous and arterial often combine in hysteria, the Muscular Cutaneous & alimentary in Children prevail, arterial & hepatic in middle life & Cepalic & nervous in old age, the arterial predisposition is general in the Spring, the hepatic in Summer & autumn, the predispositions to diseases are often hereditary resting long in one family or changed by the admixture of Strangers, it was from the peculiar views of the Greeks from marriage with other people of different predispositions that their physicians were able to ascertain the cause & cure of those diseases, the predispositions of the whole people were the same, from this variety of predisposition we learn the cause of the great variety in the operation of the application of the same morbid causes to different persons & why when they produce the same disease there is so great a variety in its accession & termination — Predisposition in one part is often

attended with pecullian exemption in other parts of the body, I Shall call that Disease when the excitement is beyond the excitement of health, & Disorder when the excitement is below health, Sudden abstraction of Stimulus and the sudden application of Stimulus produce debility in the first instance from the want of Stimulus & in the Second by the Sudden Stimulus carrying along with it the excitcability in a Suffocated State and requiring only a little rest to recover it, in Children old people the excitcability nearly parties to its two extremes than in Middle age — debility though the Predisposing Cause of all disease is not necessarily attended with disease, there is a State of the System which I shall call elevated to Distinguish it from Morbid States, it is generally the premonitor of disease hence our patients frequently tell us that they felt extremely well a few hours a days before the attack with this disease

Lecture 33d

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The Pumpkin Shell

MAPLE SPRINGS, NEW YORK

October 30 1940

My dear Dr. Pepper:-

I am so very glad to have found a home for the note books which my father, Dr. James Gobel Boardman of Rush Medical, treasured so greatly. I am sending the book to you by this mail.

My father was one of the grand type of "Country doctors," wise, sympathetic, understanding, and when in 1905 he died in Bradford, Illinois, the entire county united in love & honor and grief.

Sincerely yours
(Mrs. Elmer) Jane E. Underwood.